

TEACHING PRIMARY SCIENCE: PROMOTING ENJOYMENT AND DEVELOPING UNDERSTANDING

Peter Loxley, Lyn Dawes, Linda Nicholls and Babs Dore. London: Routledge
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The title of this book only covers the full extent of the range of material that is contained within. Such a title appealed to me as this encompasses one of my key research interests – the promotion of children’s enjoyment of and developing understanding of science. However, prospective readers should be aware that less than half of the book focuses upon such enjoyment and understanding, and those which do, primarily focus upon theory rather than a range of practical learning activities. The title and blurb suggests that this is potentially more of a teaching ideas book than one which focuses upon, in the main, some of the theory underpinning some aspects of primary science teaching. Indeed, the majority of the book consists of twelve chapters that cover subject knowledge that has been discussed more fully widely and in more depth within other similar books. Therefore, I would suggest that if a reader is looking for the briefest of introductions to subject knowledge in primary science, then this is the right book to buy. However, if you are looking for a more detailed set of subject knowledge and associated learning activities that could embed conceptual understanding, then this definitely will not be the book for you.

Such a perspective aside, there are aspects of this book that will appeal to trainee and serving teachers, especially a layout and content that may be delved into in any order. There is a fitting emphasis upon Richard Feynman and the pleasure of finding things out: many of Feynman’s inspiring quotes are discussed, and the reader is brought back to the vital role that Feynman’s father played in inspiring his son’s fascination with science. One of the key messages that Feynman kept returning to, throughout his life, was that science should be approached with a sense of inquiry and the need to look for answers that should be questioned. This, for Feynman, was at the heart of engaging inquiry-based learning as it leads to the generating of new thinking and the resolving of puzzles. This is emphasized within the book and each chapter concludes with a useful summary as well as suggestions for Association of Science Education journals, books and peer-reviewed journals that will provide further depth and ideas.

Chapter 2 provides a useful introduction to some of the theories of conceptual learning that are so often called upon as the basis for understanding how children’s knowledge and understanding may be embedded and evolved through school-based and informal learning activities. This includes a number of sociocultural approaches to learning, such as the use of dialogic storytelling and

narrative. Such approaches are developed in Chapter 5, with a focus upon exploratory talk as a means of unveiling, developing and formatively assessing children's conceptual understanding. A key area that is given the briefest of mentions is the importance and nature of the teacher's questions as the basis for developing children's ideas and inspiring their autonomous learning. Chapter 3 was of special interest to me as it focused upon scientific inquiry. A quick aside here as it is puzzling that the distinction is so very rarely made between scientific inquiry and general enquiries! Although this is a professional hobby horse of mine, I feel that we should stoically ensure that children are aware that they are engaging in scientific inquiry when they are investigating phenomena and concepts. Although, once again, the chapter provides a brief overview that skims the surface of a pedagogical approach that is central to developing children's engagement with science, there is no mention of inquiry-based learning.

I must admit to becoming more than a little cynical as I continued to read through the book. The first hint of cynicism stems from the fact this is the third edition of the book to be published, following the first edition in 2009 and the second in 2013. Clearly, the subject knowledge has not changed to such an extent that the only reason that I could suggest for the further two editions is the inclusion of website addresses. Such websites always run the risk of being out of date soon after, if not before, a book is published, and, given the busy nature of teachers, it can take an inordinate amount of time to type in such addresses correctly. I would suggest, that purchasers are provided with a code to access an electronic copy with clickable links that enable direct access to the websites and, as importantly, can be updated as changes to the URLs are made. This would also remove the need for an updated edition of the printed book in another four years' time!